

B1  
Contd

(c) a compartment for containing a sample in contact with said plurality of binding domains.

Please cancel claims 1-3 without prejudice

on disclaimer and add the following claims:

B2

27 30. A cassette for conducting an electrochemiluminescence assay comprising:

(a) a plurality of discrete binding domains immobilized on a support forming at least one binding surface;

(b) a plurality of electrodes capable of inducing electrochemiluminescence, in which said discrete binding domains are spatially aligned with said plurality of electrodes; and

(c) a compartment for containing a sample in contact with said plurality of binding domains.

28 31. A cassette for conducting an electrochemiluminescence assay comprising:

(a) a plurality of discrete binding domains immobilized on a support, forming at least one binding surface; and

(b) a plurality of electrodes capable of inducing electrochemiluminescence, in which said plurality of discrete binding domains are capable of being brought into proximity or are in proximity to said electrodes.

29 32. A cassette for conducting an electrochemiluminescence assay comprising:

(a) a plurality of electrodes, each of said plurality of electrodes capable of inducing electrochemiluminescence;

(b) a plurality of discrete binding domains immobilized on said electrodes, wherein at least one binding domain is immobilized on each of said plurality of electrodes; and

(c) a compartment for containing a sample in contact with said plurality of binding domains.

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<sup>30</sup> ~~33~~. A cassette for conducting an electrochemiluminescence assay comprising a plurality of discrete binding domains immobilized on an electrode capable of inducing electrochemiluminescence forming at least one binding surface and a compartment for containing a sample in contact with said plurality of discrete binding domains.

<sup>31</sup> ~~34~~. A cassette for conducting an electrochemiluminescence assay comprising:

- (a) a plurality of discrete binding domains on a support;
- (b) an electrode capable of inducing electrochemiluminescence, wherein said plurality of binding domains are capable of being brought into proximity or are in proximity to said electrode; and

(c) a compartment for containing a sample in contact with said plurality of binding domains.

<sup>32</sup> ~~35~~. A cassette for conducting an electrochemiluminescence assay comprising:

- (a) a plurality of discrete binding domains on a support, wherein said support comprises an electrode capable of inducing electrochemiluminescence; and

- (b) a compartment for containing a sample in contact with said plurality of binding domains.

<sup>33</sup> ~~36~~. A cassette for conducting an electrochemiluminescence assay comprising:

- (a) a first support having a plurality of binding domains on the surface thereof to form at least one binding surface, at least some of said binding domains being of different

binding specificities than other binding domains, each of said plurality binding domains being hydrophilic and surrounded by hydrophobic regions;

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(b) a second support having a plurality of reaction domains, comprising reaction media suitable for conducting a chemical assay, said plurality of binding domains of the first support and said plurality of domains of the second support being capable of being brought into contact so that a sample to be analyzed present on each binding domain is contacted with a reaction medium; and

(c) one or more electrodes for generating electrochemiluminescence.

<sup>34</sup>  
~~37.~~ A cassette for performing an electrochemiluminescence reaction of interest, comprising:

(a) a first support having a plurality of binding domains on the surface of the support, each of said domains being hydrophilic and surrounded by a hydrophobic region on said first support surface; and

(b) a second support having a plurality of domains on the surface of the second support, each of said domains (i) comprising reaction medium suitable for performing a reaction of interest, and (ii) being spatially aligned with the domains on said first support surface such that said second support can be situated so as to bring each of said domains on said second support surface into contact with an aligned domain on said first support surface;

wherein at least one of said first and second supports comprises one or more electrodes for generating electrochemiluminescence.

<sup>35</sup>  
~~38.~~ A cassette for conducting an electrochemiluminescence assay for an analyte of interest, comprising:

(a) a first support having a plurality of binding domains on the surface thereof to form at least one binding surface, each of said binding domains being hydrophilic and surrounded by hydrophobic regions; and

(b) a second support;

wherein, said first support comprises one or more electrodes for generating electrochemiluminescence, and wherein said first support and said second support define walls of a volume for the containment of a sample and reagents.

36 39. A cassette for conducting an electrochemiluminescence assay for an analyte of interest, comprising:

(a) a first support having a plurality of binding domains on the surface thereof to form at least one binding surface, each of said binding domains being hydrophobic and surrounded by hydrophilic regions; and

(b) a second support;

wherein said first support comprises one or more electrodes for generating electrochemiluminescence and wherein said first support and said second support define walls of a volume for the containment of a sample and reagents.

37 40. A cassette for conducting an electrochemiluminescence assay for an analyte of interest, comprising:

(a) a first support; and

(b) a second support having a plurality of reaction domains comprising reaction media suitable for conducting a chemical assay;

wherein said first support is an electrode for generating electrochemiluminescence and wherein said first support and said second support define walls of a volume for the containment of a sample and reagents.

*38* ~~41.~~ A cassette for use in the detection of analytes in a sample by electrochemiluminescence comprising:

- (a) a plurality of discrete binding domains on an electrode;
- (b) a binding reagent comprising an electrochemiluminescence label; and
- (c) a compartment for containing a sample in contact with said plurality of discrete binding domains.

*39* ~~42.~~ A cassette for use in the detection of analytes in a sample by electrochemiluminescence comprising:

- (a) a plurality of discrete binding domains on a plurality of electrodes;
- (b) a binding reagent comprising an electrochemiluminescence label; and
- (c) a compartment for containing a sample in contact with said plurality of discrete binding domains.

*40* ~~43.~~ A cassette for use in the detection of analytes in a sample by electrochemiluminescence comprising:

- (a) a plurality of discrete binding domains on an electrode; and
- (b) a binding reagent comprising an electrochemiluminescence label;

wherein said cassette is configured so that said electrode is capable of inducing electrochemiluminescence from more than one of said binding domains simultaneously.

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44.

A cassette for use in the detection of analytes in a sample by electrochemiluminescence comprising:

- (a) a plurality of discrete binding domains on a plurality of electrodes; and
- (b) a binding reagent comprising an electrochemiluminescence label;

wherein said cassette is configured so that said plurality of electrodes are capable of inducing electrochemiluminescence from more than one of said binding domains simultaneously.

42

45.

A cassette for use in the detection of analytes in a sample by electrochemiluminescence comprising:

- (a) a plurality of discrete binding domains on an electrode; and
- (b) a binding reagent comprising an electrochemiluminescence label;

wherein said electrode comprises carbon nanotubes or fibrils.

43

46.

A cassette for use in the detection of analytes in a sample by electrochemiluminescence comprising:

- (a) a plurality of discrete binding domains on a plurality of electrodes; and
  - (b) a binding reagent comprising an electrochemiluminescence label;
- wherein said plurality of electrodes comprise carbon nanotubes or fibrils.

44

47.

A cassette for use in the detection of an analyte in a sample by electrochemiluminescence comprising:

(a) a support comprising a working electrode with binding reagents thereon and a counter electrode; and

(b) an additional binding reagent comprising an electrochemiluminescence label.

- 45 21  
48. The cassette of claim ~~24~~, wherein said first support is a porous matrix.
- 46 28 31  
49. The cassette of claims ~~31~~ or ~~34~~, wherein said support is a porous matrix.
- 47 38 40 44  
50. The cassette of claims ~~41~~, ~~43~~ or ~~47~~, wherein said electrode comprises carbon.
- 48 39 41  
51. The cassette of claims ~~42~~ or ~~44~~, wherein said electrodes comprise carbon.
- 49 38 40 44  
52. The cassette of claims ~~41~~, ~~43~~ or ~~47~~, wherein said electrode comprises carbon nanotubes or fibrils.
- 50 38 40 44  
53. The cassette of claims ~~41~~, ~~43~~ or ~~47~~, wherein said electrode comprises carbon black.
- 51 39 41  
54. The cassette of claims ~~42~~ or ~~44~~, wherein said electrodes comprise carbon nanotubes or fibrils.
- 52 39 41  
55. The cassette of claims ~~42~~ or ~~44~~, wherein said electrodes comprise carbon black.
- 53 38 39 40 41 42 43 44  
56. The cassette of claims ~~41~~, ~~42~~, ~~43~~, ~~44~~, ~~45~~, ~~46~~ or ~~47~~, wherein said label comprises ruthenium or osmium.
- 54 38 39 40 41 42 43 44  
57. The cassette of claims ~~41~~, ~~42~~, ~~43~~, ~~44~~, ~~45~~, ~~46~~ or ~~47~~, further comprising an electrochemiluminescence coreactant.
- 55 38 39 40 41 42 43 44  
58. The cassette of claims ~~41~~, ~~42~~, ~~43~~, ~~44~~, ~~45~~, ~~46~~ or ~~47~~, wherein said cassette is configured to allow detection of electrochemiluminescence generated in said cassette by an external light detector.
- 56 38 39 40 41 42 43 44  
59. The cassette of claims ~~41~~, ~~42~~, ~~43~~, ~~44~~, ~~45~~, ~~46~~ or ~~47~~, further comprising a counter electrode.

<sup>57</sup>  
~~60.~~ The cassette of claims <sup>39 41 43</sup>~~42, 44 or 46~~, further comprising counter electrodes

forming electrode/counter electrode pairs.

<sup>58</sup>  
~~61.~~ The cassette of claims <sup>38 39 40 41 42 43 44</sup>~~41, 42, 43, 44, 45, 46 or 47~~, further comprising a

filter for filtering blood.

<sup>59</sup>  
~~62.~~ The cassette of claims <sup>38 39 40 41 42 43 44</sup>~~41, 42, 43, 44, 45, 46 or 47~~, wherein at least one

soluble component of an electrochemiluminescence assay is present in dry form.

<sup>60</sup>  
~~63.~~ The cassette of claims <sup>38 39 40 41 42 43 44</sup>~~41, 42, 43, 44, 45, 46 or 47~~, further comprising an

internal standard.

<sup>61</sup>  
~~64.~~ The cassette of claims <sup>38 39 40 41 42 43 44</sup>~~41, 42, 43, 44, 45, 46 or 47~~, further comprising a

light detector.

<sup>62</sup>  
~~65.~~ The cassette of claims <sup>38 39 40 41 42 43 44</sup>~~41, 42, 43, 44, 45, 46 or 47~~, further comprising a

light detector, wherein said light detector comprises film.

<sup>63</sup>  
~~66.~~ The cassette of claims <sup>38 39 40 41 42 43 44</sup>~~41, 42, 43, 44, 45, 46 or 47~~, wherein at least two of

said binding domains differ in specificity for an analyte.

<sup>64</sup>  
~~67.~~ The cassette of claims <sup>38 39 40 41 42 43 44</sup>~~41, 42, 43, 44, 45, 46 or 47~~, wherein at least two of

said binding domains differ in binding affinity for an analyte.

<sup>65</sup>  
~~68.~~ The cassette of claims <sup>38 39 40 41 42 43 44</sup>~~41, 42, 43, 44, 45, 46 or 47~~, wherein said binding

domains comprise binding reagents comprised of proteins or fragments thereof.

<sup>66</sup>  
~~69.~~ The cassette of claims <sup>38 39 40 41 42 43 44</sup>~~41, 42, 43, 44, 45, 46 or 47~~, wherein said binding

domains comprise binding reagents comprised of nucleic acids, nucleic acid binding molecules

or fragments thereof.



<sup>38 39 40 41 42 43 44</sup>  
67 70. The cassette of claims ~~41~~, ~~42~~, ~~43~~, ~~44~~, ~~45~~, ~~46~~ or ~~47~~, wherein said additional binding reagent comprises proteins or fragments thereof.

<sup>38 39 40 41 42 43 44</sup>  
68 71. The cassette of claims ~~41~~, ~~42~~, ~~43~~, ~~44~~, ~~45~~, ~~46~~ or ~~47~~, wherein said additional binding reagent comprises nucleic acids, nucleic acid binding molecules or fragments thereof.

<sup>38 39 40 41 42 43 44</sup>  
69 72. The cassette of claims ~~41~~, ~~42~~, ~~43~~, ~~44~~, ~~45~~, ~~46~~ or ~~47~~, wherein said binding domains comprise binding reagents capable of binding an analyte.

<sup>38 39 40 41 42 43 44</sup>  
70 73. The cassette of claims ~~41~~, ~~42~~, ~~43~~, ~~44~~, ~~45~~, ~~46~~ or ~~47~~, wherein said binding domains comprise binding reagents capable of competing with analyte in a binding reaction.

<sup>38 39 40 41 42 43 44</sup>  
71 74. The cassette of claims ~~41~~, ~~42~~, ~~43~~, ~~44~~, ~~45~~, ~~46~~ or ~~47~~, wherein said additional binding reagent is capable of binding an analyte.

<sup>38 39 40 41 42 43 44</sup>  
72 75. The cassette of claims ~~41~~, ~~42~~, ~~43~~, ~~44~~, ~~45~~, ~~46~~ or ~~47~~, wherein said additional binding reagent is capable of competing with an analyte in a binding reaction.

<sup>38 39 40 41 42 43 44</sup>  
73 76. The cassette of claims ~~41~~, ~~42~~ or ~~43~~, further comprising a counter electrode in fixed registration with said electrode.

<sup>39 41 43</sup>  
74 77. The cassette of claims ~~42~~, ~~44~~ or ~~46~~, further comprising a counter electrode in fixed registration with at least one of said electrodes.

<sup>38 39 40 41 42 43 44</sup>  
75 78. The cassette of claims ~~41~~, ~~42~~, ~~43~~, ~~44~~, ~~45~~, ~~46~~ or ~~47~~, further comprising a support, said support comprising said electrode and a counter electrode.

<sup>45 46</sup>  
76 79. The cassette of claims ~~48~~ or ~~49~~, wherein said porous matrix is on a counter electrode.

<sup>38 39 40 41 42 43 44</sup>  
77 80. The cassette of claims ~~41~~, ~~42~~, ~~43~~, ~~44~~, ~~45~~, ~~46~~ or ~~47~~, further comprising a calibration material.